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Eagle Point Solution to a Frequently Asked Question

How to Adjust, Merge and Rotate Surveys

Summary:

This document explains the process of raising or lowering the elevations of a survey, and combining two surveys into a common reference.

Product: Eagle Point Software™ 2002

Release: 2002 Q4 or 2.4.0 and greater

Platform: All

Related documents:

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As always, should you have any questions regarding any phase of installation, contact Eagle Point Technical Assistance at (800) 477-0909.

Notation Method

Button to Press *Displayed Text* **Icon** Action {Text to Enter} Menu Item...

Before you begin, from the main Eagle Point menu Click *System...* and checkmark *Embedded CAD Menus...* to put the EP menu into the AutoCAD menus.

Printing a List of the Nodes IDs of All Survey Points

You can print a listing of the nodes to help decide which nodes need modification.

1. From AutoCAD, click *EP... COGO*. (The COGO menu items will now appear within the AutoCAD menus).
2. Click *Report... Nodes...*
3. Pull down the Selection Method to *All*.
4. Click **Apply**. Click **Close**.
5. Click the **printer icon** from the Report Nodes Box.
6. Checkmark the items that you want to print. Click **Print**.
7. Click **Close**.

Raising or Lowering the Elevation of the Entire Survey

1. From AutoCAD, click *EP... COGO*. (The COGO menu items will now appear within the AutoCAD menus).
2. Click *Nodes... Raise/Lower...*
3. With none of the boxes checked click **Next**.
4. Pull down the Selection Method to *All* to select the entire survey. Click **Apply**.
5. The number of nodes selected will appear. Click **Next**.
6. Checkmark *Relative* and input the change in elevation. E.g. {-1.2} would lower the elevations by 1.2'. Click **Next**.

7. Review the list of Node ID numbers to see which ones will be changed. Click **Apply**.
8. Click **Close**.

Adding a Letter Prefix to the Node for an Entire Survey

It can be useful to have the original survey nodes be numbers only and the 2nd survey nodes all start with the letter “a”.

1. From AutoCAD, click **EP... COGO**.

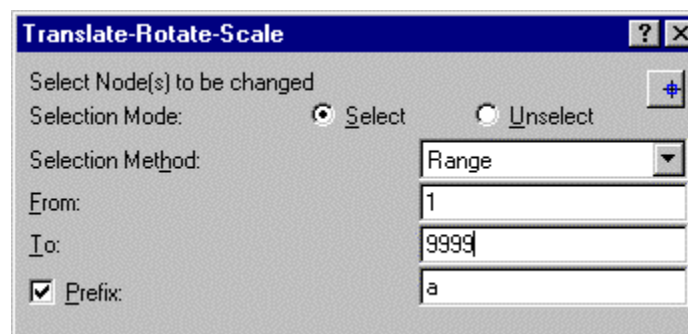
For Jobs entered via Data Collection	Or	For Jobs entered via COGO with Batch File recording turned on.
2. From AutoCAD Click NRCS/EP... Survey Import...Manage...		From AutoCAD Click Survey... Edit Batch File .
3. Highlight the survey job name that you want to isolate on the screen. Click Show Only		Pulldown the survey job name that you want to isolate on the screen. Click Show Only

4. Click **Close**. The selected job will be the only items on the screen.
5. Click **Nodes... Rename/Renumber...**
6. With none of the boxes checked click **Next**.
7. **Pull down** the Selection Method to **AutoCAD** to select the displayed survey.
8. Select all of the displayed points using an AutoCAD selection window. **Press** Enter.
9. The number of nodes selected will appear. Click **Next**.
10. **Pull down** the Renumber/Rename Options to **Rename Only**.
11. Leave Current Letters box blank {}.
12. **Input** New Letters with the desired prefix letter. E.g. {a}. Click **Next**.
13. Review the list of Node ID numbers to see which ones will be changed. Click **Apply**.
14. Click **Close**.
15. From AutoCAD, click **View... Regen...** to have all objects reappear on the screen.

Combining Two Surveys Using Translate and Rotate

In order to be able to shift and rotate an “incorrect” survey to match the “good” survey, 2 common surveyed control points (a “reference” point and an “alignment” point) are needed. Both surveys have been imported & reduced in the Eagle Point project.

1. From AutoCAD, click **EP... COGO**. (The COGO menu items will now appear within the AutoCAD menus).
2. Click **Survey... Translate-Rotate-Scale**.
3. With none of the boxes checked click **Next**.
4. **Specify** a method that you want to use to select the survey nodes that need to be moved or rotated.
5. If the 2 surveys are separated from each other in the CAD drawing, you could specify the **AutoCAD** selection method. Then use any of the regular AutoCAD selection methods to select the survey points in the “incorrect” survey. When done selecting objects **press** Enter.
OR: If the “incorrect” survey has point numbers that all start with “a”, you could specify the following method:



Then click **Apply**.

6. Click **Next**.
7. Specify a method that you want to use to select the CAD objects in the “incorrect” survey. Pull down to *AutoCAD* and then select the CAD Objects that you want to change. (This could include breaklines or any other CAD objects that need to be moved & rotated).
8. Press Enter.
9. Click **Next**.
10. Click in the Node ID box.
11. Select the “reference” point that is in the “incorrect” survey. (This should be a point that is known in both surveys).
12. Click the **Pick In CAD** button and then click on the “reference” point that is in the “incorrect” survey. OR enter the Node ID number of the reference point in the incorrect survey. The coordinates of that node will appear.
13. Click **Next**.
14. Click in the Node ID box.
15. Select the “reference” point that is in the “good” survey.
16. Click the **Pick In CAD** button and then click on the “reference” point in the “good” survey. OR enter the Node ID number of the reference point in the good survey. The coordinates of that node will appear.
17. Click **Next**.
18. If the rotation angle for correcting the survey is known, input that angle and click **Next**. Go to Step 24.
19. If the rotation angle is not known, pull down the Rotation Method to *Reference*.
20. Within Reference Direction click **Direction Options**.
21. Pull down the Options to *Two Points*. Press Tab.

22. Click the Pick in CAD button and select the “Reference” point of the “incorrect” survey.	Or	Enter the Node ID of the “Reference” point of the “incorrect” survey. Press Tab.
23. Select the “Alignment” point of the “incorrect” survey.	Or	Enter the Node ID of the “Alignment” point of the “incorrect” survey. Press Tab.

24. The coordinates of those 2 points will be put into the boxes and the Resulting Direction will appear on the screen. Click **OK**.
25. Within New Direction click **Direction Options**.
26. Pull down the Options to *Two Points*. Press Tab.

27. Click the Pick in CAD button and select the “Reference” point of the “good” survey.	Or	Enter the Node ID of the “Reference” point of the “good” survey. Press Tab.
28. Select the “Alignment” point of the “good” survey.	Or	Enter the Node ID of the “Alignment” point of the “good” survey. Press Tab.

29. The coordinates of those 2 points will be put into the boxes and the Resulting Direction will appear on the screen. Click **OK**.
30. The resulting rotation angle will appear. Click **Next**.
31. Leave the scale factor at 1 and click **Apply**. Click **Close**.
32. Inspect the moved and rotated points to make sure that the adjustment was correctly done. From AutoCAD, you can click *Report... Nodes...* to list the coordinates of the survey points that you are interested in.

When done you can hide the COGO menu items: From AutoCAD, click *EP... AutoCAD*.

Submitted by Norman Friedrich.